

CLAIMS

What is claimed is:

1. An electromotive servo drive, comprising:
 - a drive motor having an external rotor;
 - a drive train in driving relationship with the drive motor and having an output member operatively connected to a control element to be adjusted;
 - a locking device having a brake element movable between a release position in which the rotor is free to rotate and an operative position in which the rotor is locked in place;
 - a reset spring operatively connected to the brake element for maintaining the rotor at a standstill, when the reset spring is under tension; and
 - a manually-operated actuating shaft for tensioning the reset spring and moving the control element to a base position.
2. The servo drive of claim 1, wherein the drive train has a drive wheel which is supported on the actuating shaft.
3. The servo drive of claim 2, and further comprising a freewheel or overrunning clutch for supporting the drive wheel on the actuating shaft.
4. The servo drive of claim 1, wherein the actuating shaft is disposed in axis-parallel relationship to a rotation axis of the rotor.

5. The servo drive of claim 1, and further comprising a bushing for support of the actuating shaft via a frictional engagement so that a rotation of the actuating shaft is accompanied by a movement of the bushing, and further comprising stops for limiting a rotation angle of the bushing in both rotation directions.
6. The servo drive of claim 5, wherein the locking device includes a lever supported by the bushing and a reset spring having one end linked to the lever and another end linked to the bushing.
7. The servo drive of claim 6, wherein the rotation angle of the bushing is greater than a rotation angle of the lever, wherein a difference between the rotation angles is commensurate with a pressing force by which the brake member is urged against the rotor via the reset spring, whereby the brake member rotates in relation to the lever.
8. The servo drive of claim 1, wherein the brake member is a double-armed lever having first and second arms extending at an angle to one another.
9. The servo drive of claim 8, wherein the angle is an acute angle.
10. The servo drive of claim 8, wherein the locking device includes a spring element for interconnecting the first and second arms of the brake member.

11. The servo drive of claim 10, wherein the spring element is an annular spring element.
12. The servo drive of claim 1, wherein the locking device includes an elastic extension arm formed on the brake member for urging the brake member to seek the release position, and further comprising a stop for defining the release position.
13. The servo drive of claim 1, wherein the brake member includes a locking cam to allow movement of the brake member to the release position by hand.
14. The servo drive of claim 1, wherein the actuating shaft includes a spring element for urging the actuating shaft to seek a rotation in opposition to a rotation to realize a tensioning of the reset spring so as to release the locking device.
15. The servo drive of claim 14, wherein the spring element is a wrap spring.
16. The servo drive of claim 1, wherein the spring element is disposed in a gap between the actuating shaft and the bushing.

17. The servo drive of claim 1, and further comprising an overload safety mechanism for protecting the reset spring against overrotation by the actuating shaft.
18. The servo drive of claim 1, wherein the overload safety mechanism includes a toothed disk and a spring washer having several radial spring legs with angled ends for engagement in spaces between teeth of the toothed disk.
19. The servo drive of claim 1, wherein the overload safety mechanism includes two disks in contact with one another, wherein confronting surfaces of the disk are profiled, with one of the disks being spring-biased.